Predation Management Options

This fact sheet will introduce predation control options for Saskatchewan livestock producers, providing a brief description of some of the tools and techniques used in predation damage prevention and control of predators. Additional information can be found in the *Livestock Guardian Dogs* fact sheet.

Some of the control measures included here may be undertaken only by specially trained staff. Contact Saskatchewan Environment for further details and for any area-specific restrictions that may be in place for conservation efforts.

FACT SHEET

Signs of Predation

Determining the cause of an animal's death is not always easy. You must often determine whether an animal was killed by a predator or died from other causes and was later eaten by a scavenger. The single most important evidence of predation is hemorrhage (bleeding) and bruises. An animal will only hemorrhage or bruise when it is alive or for a very short time after death. Table 1 outlines some indicators that can be used to distinguish between coyote and domestic dog attacks.

When a carcass is found, try to determine the approximate time and location of the attack. Look for signs that the carcass has been dragged from the kill site to its present location (i.e. a trail of blood or crushed grass). If livestock are known to leave the bedding area at 5:00 a.m. and the carcass is found nearby, the attack was likely made around that time. This information will help to determine the best time for hunting the predator.

Table 1 Differences between coyote and domestic dog attacks on livestock

Coyotes
Foam in trachea indicates death by suffocation.
Presence of tooth puncture in the throat area.
Damage to the throat and neck area will show in 95% of coyote kills of lambs.
No sign of mutilation.
Herds are usually calm.
Usually one animal is killed at a time.
Carcass is consumed, usually with the organs being eaten first.
Domestic/Feral Dogs
Usually no sign of feeding on the carcass.
Mutilation is present on numerous parts of the carcass.
Herds will show nervousness. Cattle will become very skittish.
More than one animal may be injured or killed.

Calling Equipment

A variety of devices is available to attract predators by producing sounds like the distress calls of various prey species. Novice hunters can easily master the art of predator calling by accompanying and learning from experienced callers or by viewing any of the numerous videotapes currently available on the market.

Electronic calling machines

These devices consist of a miniature tape player, battery, speaker and a prerecorded cassette tape of animal distress sounds. Electronic calling machines offer several advantages over manual callers. They can use a variety of prerecorded tapes, offer greater volume control and can be positioned some distance from the hunter. Two disadvantages are weight and expense.

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103-04572/

To assist producers with livestock predation problems, Saskatchewan Environment has purchased several electronic callers that are available for loan through local offices. These devices, rather than mouth calls, are the preferred option for a novice hunter.

Manually-operated calling equipment

Small, light and inexpensive, manually-operated calling devices (mouth calls) can be as effective as electronic calls but have some drawbacks. Mouth calls generally have less volume and therefore a reduced effective range compared to electronic callers. Mouth calls with metal reeds may freeze up in extremely cold temperatures.

Predators will stalk hunters who are using mouth calls, so extra care is required. Some ways to avoid being seen by a stalking predator include:

- wearing camouflage clothing;
- moving as little as possible, calling in short sequences and stopping calling when predators are in sight; and
- positioning a second hunter 50 to 100 metres from the caller to do the shooting.

Calling sites and setup

The best sites for calling are those areas with a lot of open terrain and scattered patches of brush. Calling locations should offer a clear view of the area while providing adequate cover for the hunter. The calling equipment should be hidden in brush or tall grass.

Note the direction from which magpies approach when attracted by the caller because predators, especially coyotes, often approach and investigate from the same direction.

Clothing

Camouflage clothing and facemask are recommended in colours and patterns matching the season and surroundings. Firearms need not be camouflaged.

Positioning

In order to observe predators approaching from farther distances and to allow ample time to prepare for a shot, hunters should take high vantage points whenever possible. Hunters should take care to blend with the surroundings and to choose locations with good visibility.

Communication

Working with a partner will reduce the need to move and increase the terrain that can be observed. Purchasing inexpensive voice-activated headsets can provide effective hands-free communication with your partner and increase hunting success.

Wind

To reduce the chance of your scent being detected, calling should always be done against the wind. However, winds greater than 15 km/hr may force hunters to call downwind for better success.

Calling Sequence

Predators, especially coyotes, may arrive in a few minutes on days with light winds. They may take more time (10 to 15 minutes) when coming from long distances. The following calling sequences should be followed to maximize calling success:

Coyotes - 12 to 15 minutes of rodent squeals or jackrabbit, deer fawn, lamb or coyote pup-in-distress calls.

Wolves - 30 to 45 minutes of deer fawn, jackrabbit/snowshoe hare or coyote pup-in-distress calls.

Cougars - 30 to 45 minutes of deer fawn or jackrabbit-in-distress or cougar-in-heat calls.

Vehicles

Approach calling areas quietly at speeds under 50 km/hr. Do not slam vehicle doors and make sure that the vehicle cannot be detected by approaching predators. Whenever possible, park downwind and walk for five to 10 minutes to the calling location.

Snaring

The use of free-hanging neck snares has become one of the most effective methods in capturing predators, especially coyotes. Snares offer several advantages over steel foothold traps: they are lightweight, compact, simple in function, affected little by weather, easy to set, low in cost and offer a high degree of human safety. Studies have shown that snares were 10 times more selective than foothold traps for targeting predators, and single bait sets have been known to take as many as 50 coyotes during a six-week period.

Producers who have experienced livestock predation can contact their local Saskatchewan Environment office for information on acquiring neck snares. To assure that the snares are designed to release non-target species such as deer, only government-approved neck snares will be allowed for use under a special permit. Winter bait sites will provide the best snaring opportunity; however, snares can be used successfully at any time of the year.

Preparation of snares

Snares can be treated and de-scented if desired, but field use has shown that snares will work effectively even without de-scenting. If snares are to be treated, place a dozen snares in a bucket of boiling water mixed with four tablespoons of baking soda for one hour. The snares will turn a dull grey after being removed and should be hung up to dry outdoors.

Snare set locations

Snares should be set on known predator trails. In most instances, coyotes and wolves will travel along trails made by livestock. It is strongly recommended that pastures that do not contain livestock be selected as snaring locations. Some of the best snare locations are heavily brushed areas that contain cattle paths or other animal trails. Alternatively, snares can be set along (but not underneath) fencelines, vehicle trails, game trails crossing fencelines or actual predator trails.

Figure 1 shows a tree snare setup that utilizes natural obstacles or "guide-points" to direct coyotes to the centre of the snare.

Supporting Snares

There are various methods of supporting neck snares. One method is to cut a piece of 12-gauge haywire approximately 1.3 metres (4 ft.) long. Wrap one end of the wire securely to a tree beside the trail. Pass the other end through the swivel of the snare, bend the wire back on itself and make three or four tight loops. Leave yourself at least 30 cm (12 in.) of wire extending out past the swivel. The snare cable can now be wrapped around the support wire three times in order to obtain the required support. This method is shown in Figure 1.

Another snare support can be made from a 0.9 metre (36 in.) piece of 12-gauge galvanized or nine-gauge soft wire. This method is shown in Figure 2. Form a 'V'-bend in the support wire approximately 10 cm (4 in.) from the end and drive the wire into the ground using a notched rod to prevent the support from moving in the wind. Wrap the snare around the support several times and hold it in place with a 'U'-bend formed in the upper end of the support. Snares should always be attached to solid anchors such as trees or steel rods made of 1.3 cm (½ in.) rebar approximately 72 cm (30 in.) long.

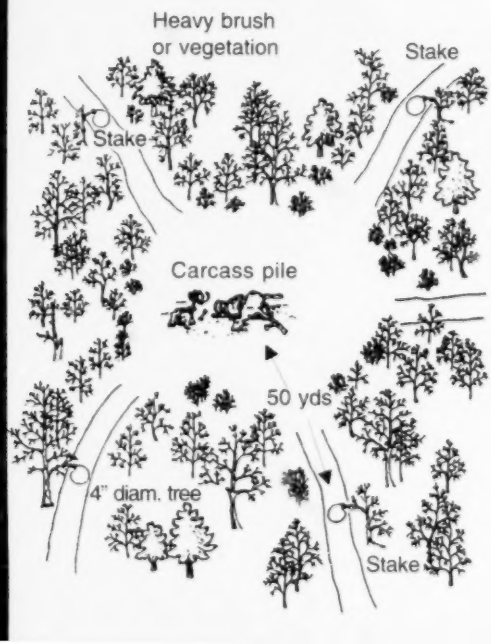
Snare Loop Sizes

Snare loop sizes must be properly adjusted to capture the intended predator species. In addition to the loop sizes, snares must be correctly positioned above the ground (See Figure 3, next page).

Carcass Pile Bait Station

During winter months when predators must hunt longer periods for food, they can be drawn into heavy cover with baits such as the carcasses of livestock (or road-killed big game obtained from a conservation officer). Carcass baits should be placed in the middle of heavy brush patches that have numerous trails leading into them. Snares should be set approximately 27 to 45 m (30 to 50 yd.) away from the bait site (Figure 4).

Figure 4 Carcass pile bait station



Trapping

Trapping is a very selective technique useful in almost any predation situation. With proper instruction, most landowners can become proficient enough to trap problem predators on their land. Predators normally follow roadways, trails, field edges and fencelines. Trap set locations should be concentrated along these areas. Traps should be routinely checked throughout the trapping period (minimum of once daily).

Conventional leg-hold traps have been banned as of April 1, 2001. Only leg-hold traps with offset or padded jaws may be used now.

Figure 1 Tree snare support

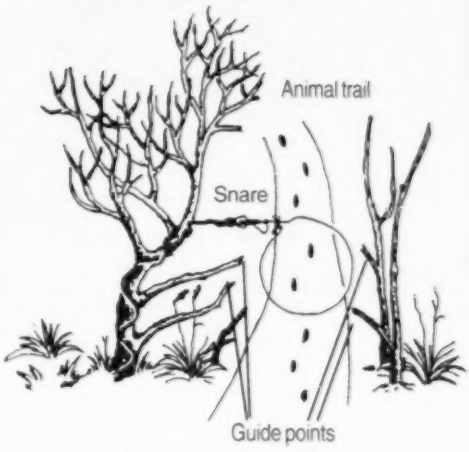
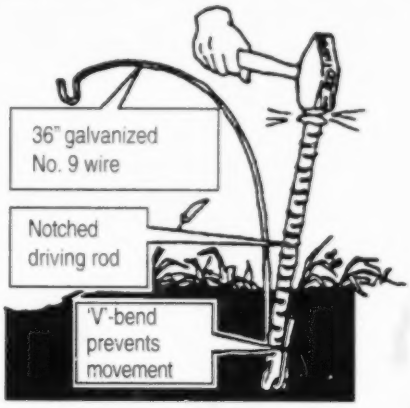
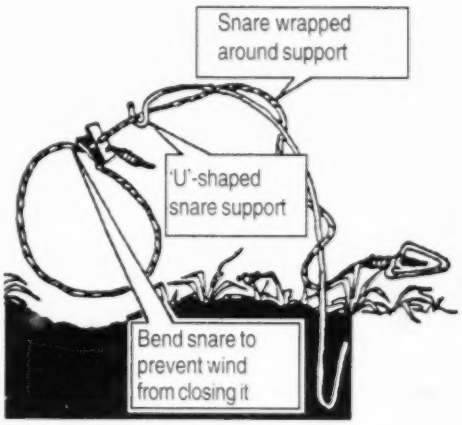


Figure 2 Wire snare support



Driving in the support wire



Setting the snare

Recommended Trap Sizes

Coyotes - No. 3 or No. 4 coil spring traps with padded or offset jaws.

Wolves/cougars - MB-750 with offset jaws, Alaskan, Braun or No. 4½ Newhouse traps (coil spring preferred).

M121

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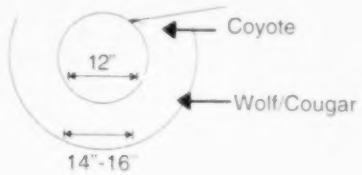
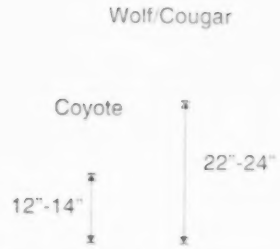
Figure 3 Snare loop sizes and placement height

Measure from bottom of loop to the ground for neck snare.





Required height of snares

Only attach snares to stakes with No. 9 extension cables. Wire does not work efficiently from stakes.

Trap Preparation

Traps should always be treated and dyed prior to using. Trap dying prevents rusting and removes oils and other human scents. Commercial dyes can be obtained from any trapping equipment supplier.

Whenever traps are purchased, they should always be tested to ensure that the pan is level when set. Trap pans that are either too high or too low can result in poor or missed catches. Trap pans can be adjusted by either bending the trigger assembly toward or away from the pan. Bending the trigger assembly toward the pan will raise it, while bending the assembly away from the pan will lower it. Adjustments should be made using either a hammer or pliers. Traps should be adjusted prior to being dyed and once treated, they should be not be handled again, except with clean rubber gloves.

Trap Handling

Care should be taken when handling and placing dyed traps to prevent contamination with human scent. Always use clean rubber gloves when handling traps. The use of rubber pants and boots will further reduce the amount of human scent left at a set location. Traps should be transported in such a way that they do not become contaminated by fuel, bait or lure attractants.

Stakes and Drags

Traps should always be anchored securely. Stakes or drags should be strong enough to hold predators once caught. Drags can often be made of heavy objects found at the trapping site, such as logs or rocks. Commercially-made steel grapple hooks can also be used when trapping in forested areas. Drags or grapples can be used effectively in snow. If metal stakes are used, ensure that they are long enough that they cannot be pulled from the ground. Stakes should be placed directly under traps whenever possible. Traps should be anchored as shown in Table 2.

Trap Concealment

Proper trap concealment will determine trapping success. Once trap locations have been determined, dig a shallow depression slightly larger than the trap being used and deep enough so that, when set, the top of the trap is below the surrounding ground level. The depression must have a level base so that the traps will not move when predators step on them.

Trap pans should be covered with screening, wax paper, white polyester sheeting or paper towelling. Ensure that enough material covers the entire inside area of the trap jaws to prevent any dirt from falling underneath the pan that might cause the trap to fail. Position traps so that the springs face the same direction as the approaching predators. This will ensure that the predator is caught by the entire foot and not by the toes, which may lead to escape.

Trap pan tension should be adjusted so as to release only when the proper weight is applied. To increase pan tension, place polyester fiberfill or crushed plastic underneath the pan. This will increase the amount of weight required to depress the pan. Carefully sift dry dirt or place leaves over the entire trap surface, ensuring the set remains flat. Grass may be scattered over loose dirt to further camouflage a trap set in pasture situations. The finished trap set should be level and slightly lower than the surrounding soil, creating a slight depression. Brush away any footprints when leaving the set.

Trap sets should be inspected at a distance or from your vehicle each morning during the trapping period. If problem predators are caught and the site is to be reused, it is important to clean and dispose of any blood at the site. Traps may have to be reset with dry dirt after a heavy rain.

Lures, Baits and Scents

Predators are always attracted to food odours or scents. Many commercial baits, lures and urine are available and should be used around sets. These make the predator concentrate on the odour, rather than on your traps. Remember to use attractants specifically designed for the predator you are trying to trap.

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Predator	Chain length (with stakes)	Chain length (with steel grapples/drags)	Stake[1] length	Drag weight
Coyote	as provided with swivel	1.5 m (5 ft.)	45-60 cm (18 to 24 in.)	27 kg (60 lb.)
Wolf	0.6 to 1.2 m (2 to 4 ft.)	1.2 to 1.8 m (4 to 6 ft.)	0.6 to 0.9 m (2 to 3 ft.)	90 kg (200 lb.)
Cougar	1.2 m	not recommended	0.6 to 0.9 m (2 to 3 ft.)	90 kg (200 lb.)

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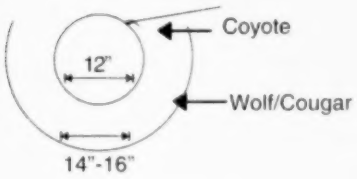
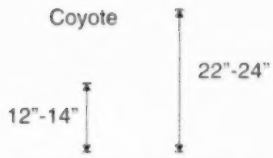


Wolf/Cougar



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Lures, baits or scents are usually applied to clumps of grass, rocks, stumps or into either natural or man-made holes.

Trap Spacing Requirements

Figure 5 shows the correct spacing and distance required to trap coyotes, wolves and cougars. Traps should be placed at 60° angles in front of any bait, lures or scent attractant placed against backing.

Trapping Sets That Work

The following trap sets have high success rates in capturing coyotes, wolves and cougars. Remember to use prevailing winds to your advantage when making these sets.

Scent-Free Coyote Set

Use a scent-free coyote set along fencelines, livestock paths, cultivated fields or dirt roads. Using a six-inch auger, bore a hole 30 cm (12 in.) deep, preferably on the downwind side of a clump of grass. This will encourage predators to approach the set on the trap side. If no natural backings are available, provide your own: old cow skulls, stumps or rocks provide good backings. Place some bait (fish, fowl or meat scraps) in the bottom of the hole. Insert a 10 cm (4 in.) diameter post on top of the bait and lean the post away from the backing to act as a "plug." Fill the hole with dirt and pack firmly. Set a trap on the downwind side of the post, approximately 22 cm (9 in.) away.

Figure 5 Trap spacing requirements

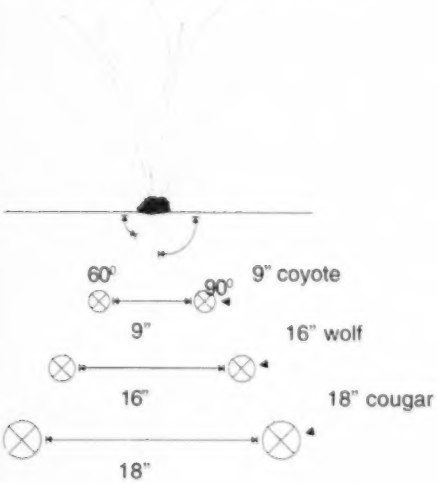
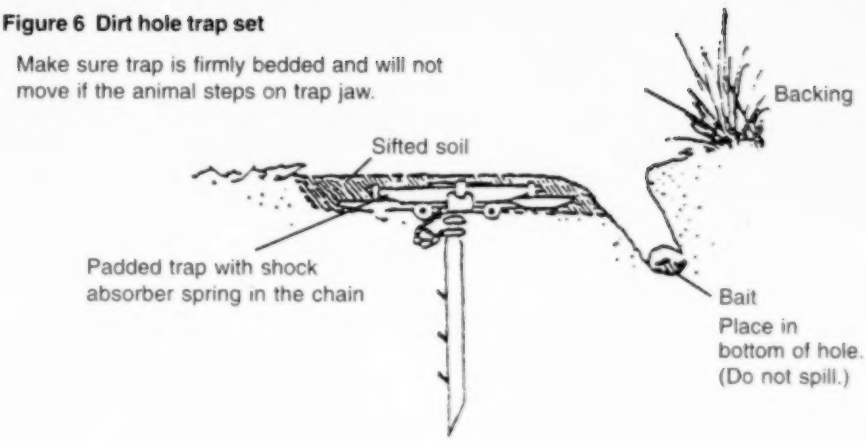


Figure 6 Dirt hole trap set


Make sure trap is firmly bedded and will not move if the animal steps on trap jaw.
Backing
Sifted soil
Padded trap with shock absorber spring in the chain
Bait
Place in bottom of hole. (Do not spill.)

Brush away any footprints and let the set weather for several days. When you want the set to be operational, drive beside the set with your vehicle, lean out and wiggle the 'plug' post out of the hole. You now have a set free of human scent. Check your sets from a distance and avoid leaving human signs in the area.

Dirt Hole Set

A dirt hole set is similar to the previous set, but made by using a small hand trowel (Figure 6). Dig a 5 to 7 cm (2 to 3 in.) hole on a 60° angle in front of a prominent backing (grass clump, mound, rock or stump). The hole should be at least 30 cm (12 in.) deep. The trap should be placed on the downwind side. Place the bait into the hole and cover with some grass. Place scent lure or attractant sparingly on top of the prominent backing.

Three Hole Coyote Set

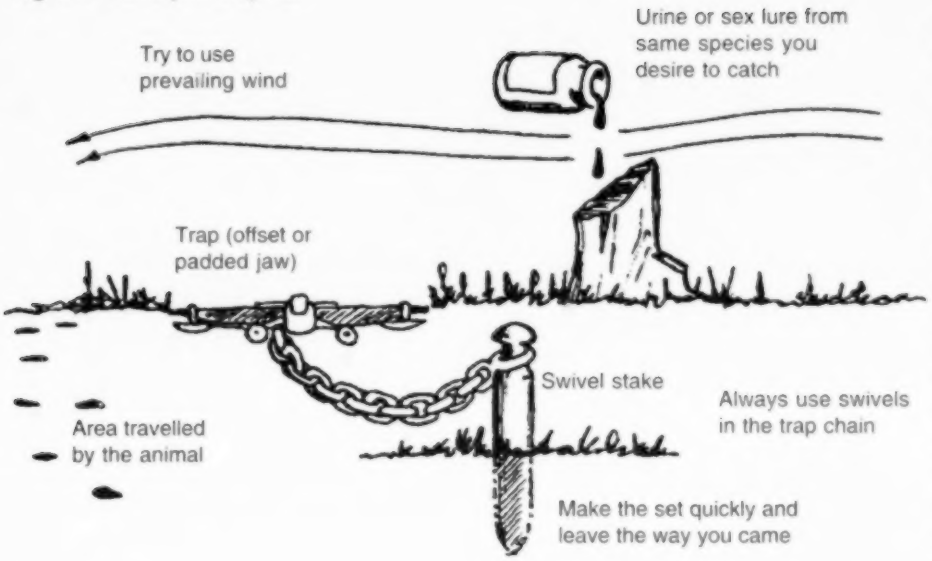
Dig three holes with a small turf spade, about 1.2 to 1.5 metres (4 to 5 ft.) apart, angling the holes to a common centre forming a triangle. Pile excavated dirt in the centre of the triangle to create a low mound. Two of the holes should be 20 to 30 cm (8 to 12 in.) in diameter, resembling animal burrows. The third hole can be smaller for the sake of variety. All holes should be approximately 45 cm (18 in.) deep and angled under the dirt pile.

The holes should then be baited with three different baits. A successful trio is beaver, skunk and poultry carcass remains. All bait should be slightly covered with grass to avoid attracting predatory birds. Place traps approximately 15 cm (6 in.) into the holes. Traps should remain level or slightly below the bottom of the trench. A fourth trap should be placed on top of the mound in the centre. Feathers and/or fox urine may be sprinkled on top of the dirt mound as an added attractant. Double catches are common at this set.

Wolf Urine Post Set

One of the most successful wolf sets is the urine or scent post set (Figure 7). Territorial predators such as coyotes, wolves and cougars will urinate on any prominent object at the side of trails or along a fenceline to mark their territory. Traps may be camouflaged in front of these scent posts. During winter months, cover the trap with paper towel and a light dusting of snow. When snow is not present, cover the trap with sifted dirt or leaves. Ensure the trap(s) create a slight depression and that the surface of the trap is flat.

Figure 7 Scent post trap set


Urine or sex lure from same species you desire to catch
Try to use prevailing wind
Trap (offset or padded jaw)
Swivel stake
Always use swivels in the trap chain
Area travelled by the animal
Make the set quickly and leave the way you came

Let the wolf be your guide to trap placement. It should be obvious where the wolf stood at the post. If no scent posts are available, you can make your own by sprinkling fox or coyote urine on a clump of grass, prominent stump or mound of snow along the edge of a trail or fenceline. Another option is to import frozen wolf urine from other areas to attract resident wolves.

Deep Snow Wolf Set

Locate a trail commonly used by wolves on their regular territorial circuit. Approach these trails at right angles to minimize human scent left at the site. Disturb snow and vegetation as little as possible. Gently dig beneath a track with a scoop or trowel. Throw excavated snow neatly away. Slide a trap under the track. The trap should be equipped with a camouflaged extension chain and grapple that is anchored away from the trail. Back away from the set, covering up your presence by throwing fluffy surface snow over your footprints. Be patient! Wolves return to an area every eight to 14 days.

Snowmobile Trail Wolf Set

Wolves will often follow a snowmobile trail in deep snow. Working from a sleigh towed by your snowmobile, dig a trap bed in your track, preferably in a low spot in the trail (Figure 8). Your trap should have the extension chain and drag hidden beside the trail in the deeper snow. Sift hardened snow over the trap. Erase all signs of unnatural disturbance and gently accelerate your snowmobile away from the set area.

A variation of this set is to plant slender willows at an angle in the trail on either side of the trap. This directs the wolf to step squarely on the trap pan. As well, a scented wolf or coyote lure may be stuck at the side of the trail near the trap. This will distract the wolf, causing him to step around in your set area, thereby increasing the chance of a successful catch. Upon returning, make a detour around the set. Wolves will usually follow the straight trail.

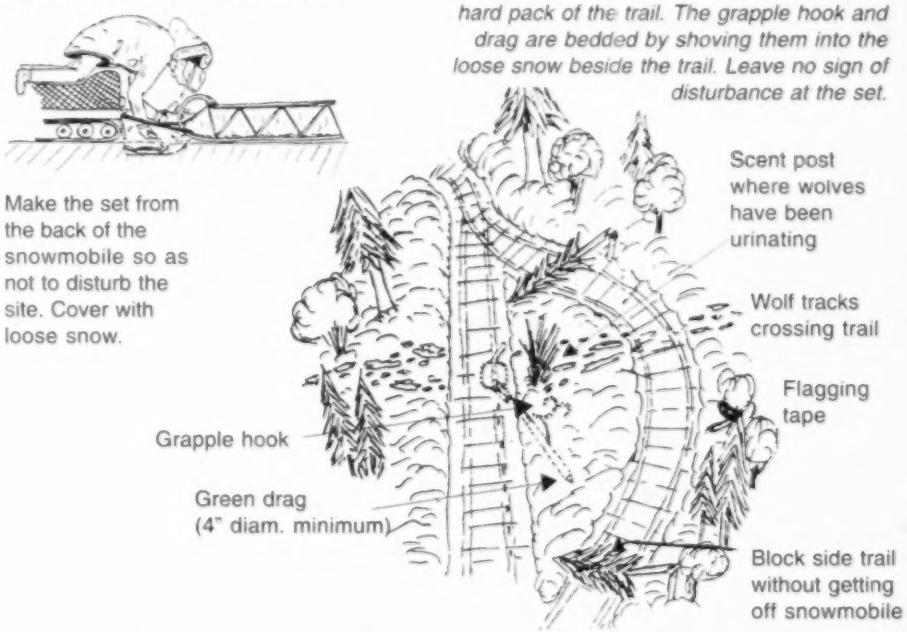
Wolf Summer Set

In an open grassy area, set and camouflage four to six traps in a rough circle approximately 5 metres (16 ft.) in diameter. Inside the circle, make several mouse-sized holes 5 to 7 cm (2 to 3 in.) deep with a stake. Let the area weather for a couple of days to dissipate any scent you may have left. Now enter the set circle and put a variety of lures in your mouse holes. If you do not have access to lures, use bits of fat, cheese or cooked meat scraps. These items will hold their appeal longer in warm weather than raw product. As a final attractant, scatter a pail of feathers over the entire set area. Leave the same way you entered. Check the set from a distance after this.

Cougar Carcass Set

The most effective way to quickly eliminate problem cougars is to track them with experienced dogs. However, if trapping is chosen as an alternative, a No. 4½ Newhouse trap should be placed 18" from a bait carcass. Traps must be well anchored at all times, using a 24" to 26" stake.

Figure 8: Snowmobile trail trap set


Completed set shows the trap bedded in the hard pack of the trail. The grapple hook and drag are bedded by shoving them into the loose snow beside the trail. Leave no sign of disturbance at the set.
Make the set from the back of the snowmobile so as not to disturb the site. Cover with loose snow.
Scent post where wolves have been urinating
Wolf tracks crossing trail
Flagging tape
Grapple hook
Green drag (4" diam. minimum)
Block side trail without getting off snowmobile

M121

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Shooting

A producer experiencing livestock predation may shoot problem animals on his land at anytime of the year. Producers must immediately contact a conservation officer when a wolf or cougar is destroyed. Cougars and wolves, which are protected wildlife, will remain the property of Saskatchewan Environment. Problem coyotes that are destroyed do not have to be reported.

High-powered rifles are recommended for predator control, due to their better stopping power and the fact that the shot distance can range from very close to 300 or 400 metres. If the pelts are to be salvaged, full metal-jacketed ammunition or ammunition designed not to exit the carcass is recommended.

Coyote Den Hunting

The primary purpose of den hunting (usually done from late April through July) is to stop adult predators from killing livestock to feed their pups. The best time to locate dens is in the early morning or just before dark when coyotes are most active.

Dens are often located along the edge of a coulee or on the south side of a hill within three kilometres of a kill site and within 200 to 300 metres of a water source. Inhabited for about one and a half months, dens are usually 2.4 to 3 metres long, with one entrance. Bones, feathers and droppings mark an active den. Since pups look for grubs under cow-chips, flipped chips indicate pups may be in the area.

Electronic calling devices can be used to locate coyote dens. Coyote howling tapes will aid in pinpointing coyote dens as coyotes with pups usually respond to howling. If one adult is away hunting, the coyote pup-in-distress call or coyote challenge tape played some distance from the den may be used effectively.

If the den is approached, be prepared to destroy the animals in it or they will move once discovered. Three gas cartridges placed fuse-hole-down in the hole and sealed with dirt and/or a piece of plywood should ensure the predator coyotes do not survive. Chemical gas cartridges are available from most Saskatchewan Environment offices.

Research has shown that removing adults and pups almost entirely eliminates predation, while removing pups alone reduces predation by approximately 90 per cent. Adults should be destroyed first or they may quickly move the pups. It is not uncommon to find two females in a den with up to 15 pups.

Aerial Hunting

Hunting problem predators from aircraft is allowed only under a special permit issued by Saskatchewan Environment. Aerial hunting is not recommended because of the special skills required by both pilot and gunner and the associated dangers inherent with low-level flight.

Snowmobile Permits

If all other predator control methods have failed, permits may be issued to allow producers to pursue predators on a snowmobile. Absolutely no firearms may be carried loaded or be discharged from the vehicle, and predators may not be injured or destroyed by use of the vehicle alone. Both aerial hunting and pursuit on snowmobile will be considered only as a last resort.

Control with Compound 1080

Compound 1080 (sodium monofluoroacetate) is used as a chemical control for problem coyotes and other canines. Saskatchewan Environment is responsible for the administration and application of Compound 1080. Staff, certified in handling chemical control agents, will consider using it only if no other practical alternative control measures have been successful. The poison is not for use by ranchers.

How is 1080 used?

Compound 1080 is an effective and safe method of chemical canine control within a responsible predator management program. Non-target animals are protected by the chemical nature of the product, the type of lure used, season of baiting and the manner in which the bait is exposed in the field.

When administered, the compound will be placed in tablet form around the lure-carcass in small prepared baits.

Producers are encouraged not to move or disturb the carcass from the original kill site. Compound 1080 is significantly less effective in targeting predators if the kill site has been disturbed.

Toxicity – Canine species have a very low tolerance to Compound 1080, which is not particularly toxic. The amount needed to kill canines would have little effect on other species. Humans, for example, would have to consume six times the lethal canine dose before showing even sub-lethal effects of the poison. Common household products such as cleaners and solvents are potentially more toxic to people and animals if misused.

Environmental Concerns – A challenge associated with the use of any toxic compound is to avoid affecting other animals in the food chain. Compound 1080 does not accumulate in an animal's body, nor can an animal build resistance. If a sub-lethal dose is consumed, it is fully metabolized, with no residual remaining. Due to the low levels needed to affect canines, it is physically improbable for other scavenging species to eat enough tainted meat to be affected.

Compound 1080 will not persist in soil or plants if accidentally leached out or spilled onto the ground. Little threat is posed to fish or amphibians because of dilution, and these species have shown the greatest tolerance for the poison in laboratory trials.

Compound 1080 will not be used as winter bait for coyote population control and its use is restricted in areas of southwestern Saskatchewan that have population of swift fox. Other conservation efforts may also influence the applications of Compound 1080.

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Non-Lethal Control Measures

Predator-Resistant Fences

Fences can be constructed to exclude predators. However, due to the persistence and intelligence of many predators, the longevity of such fences cannot be guaranteed or predicted. Fence construction can be costly and time-consuming. Effective fences would need to be sufficiently high to prevent jumping over, and have an "apron" to discourage digging under. Predator-resistant fences are a necessity if the flock is brought into the barn or corral every night for protection. Another fencing alternative is drift fencing, which is intended to redirect predators away from sheep pens.

Electric Fences

Electric fences are costly and may not be entirely effective in excluding predators. Predators are highly adaptable and have been known to breach electric fences with few problems. Fences also need to be grounded and a reliable power source secured.

Predators need to be conditioned to respect electric fences. This means that the animal must receive a shock before it recognizes the fence as a danger. In some instances, coyotes have entered a pasture and become trapped inside by the electric fence. This problem may be overcome by using a hot wire that is offset or placed outside a conventional fence.

Confinement Practices (and Penning at Night)

Confinement involves containing the flock in a secure, well-lit location during peak predation times such as evening. Although effective, confinement dramatically increases production costs (buildings, feed, labour) and presents parasite, disease and nutritional challenges. It can negatively affect animal performance and negates the primary advantage of livestock production in Saskatchewan – the availability of grazing land for extensive, low-cost agriculture.

Pasture Management

At certain times of the year, moving livestock out of pastures where there has been a history of extensive predation may avoid problems. Moving livestock out of pastures that are adjacent to wood or coulees, which can provide cover to predators, or the removal of the cover sources themselves, will reduce the opportunity for predation. Maintaining smaller, intensively managed pastures may reduce predation by allowing for greater surveillance of the flock, but there will be higher labour costs and input constraints.

Vehicles

Parking vehicles in the area where losses are occurring often temporarily reduces predation. Move the vehicle to a new location to improve its effectiveness. Often producers place a scarecrow in the vehicle if losses are occurring during the daylight hours.

Scarecrows

Scarecrows made of clothing or plastic bags can also reduce losses over the short term. Scarecrows should be moved on a daily basis to improve their effectiveness.

Propane Scare Cannons

Propane cannons produce loud explosions at timed intervals when a spark ignites a measured amount of propane gas. Cannons should be moved on a daily basis and regulated to fire every 10 to 15 minutes. Turn cannons on just before dark and off at daybreak unless predators are killing during daylight hours. Scare cannons are available on loan from any Saskatchewan Environment office.

Radios

Radios left playing in a pasture can also reduce predation. Radios should be tuned to an all-night station and moved to a new location in the pasture every day. They should be turned on at dusk and off at daybreak.

Strobe Lights and Sirens

A scaring device known as the electronic guard (EG) can be very effective. The EG consists of a strobe light and siren controlled by a variable interval timer that is activated at night with a photoelectric cell. Tests conducted using the EG in fenced pastures show that predation can be reduced as much as 89 per cent.

Two EG units should be used in small pastures (eight to 12 ha). Three to four units should be used in larger pastures (16 to 40 ha) or in hilly or wooded areas. EG units should be placed on the top of fence posts or T-posts or hung in a tree, making sure they are in a prominent location away from shade. The units should be moved every 10 to 14 days.

The units are ineffective in pastures larger than 40 ha. For large pastures or if terrain is a problem, the EG units should be placed close to the bedding area.

Monitoring

Though very effective, monitoring the flock full time can be cost-prohibitive. However, when combined with a sheep/ecology project the additional labour costs could be warranted.

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